



PATENT ABSTRACTS OF JAPAN

(11) Publication number: **11163024 A**(43) Date of publication of application: **18.06.99**

(51) Int. Cl.

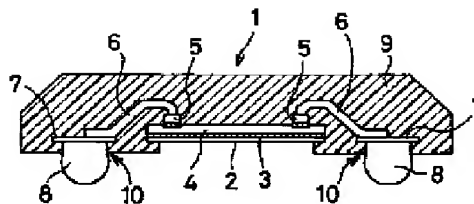
H01L 21/60**H01L 21/60****H01L 23/12**(21) Application number: **09327947**(22) Date of filing: **28.11.97**(71) Applicant: **SUMITOMO METAL MINING CO LTD**(72) Inventor: **NAKAMURA SHINICHI**

**(54) SEMICONDUCTOR DEVICE AND LEAD FRAME
FOR ASSEMBLING THE SAME, AND
MANUFACTURE OF THE DEVICE**

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a semiconductor device in which high reliability can be maintained, and high density can be attained with low costs, and a lead frame for assembling the semiconductor device, and a method for manufacturing a semiconductor device suited for down-sizing.

SOLUTION: A semiconductor 1 is constituted of a semiconductor element 4 whose back face a die pad 2 is connected through insulating adhesive 3 with, outside electrode pad 7 connected through a wire 6 with an inside electrode 5 of the semiconductor element 4, solder ball 8 connected with the outside electrode pad 7, and resin 9 sealing those parts. Then, in this semiconductor device 1, the solder ball 8 is exposed through an opening 10 formed in the resin 9 so as to be connectable with another substrate.



COPYRIGHT: (C)1999,JPO